



Environmental Cleanup Program

ISSUE 23 – February 2004

A QUARTERLY NEWSLETTER REPORTING ON CLEANUP AT BEALE AFB

2004: Another year of action at Beale AFB

Beale AFB is turning an important corner in its Environmental Restoration Program (ERP). At more and more sites, Beale AFB has completed required studies and is aggressively moving into the cleanup phase. During 2004, cleanup actions are scheduled for ERP Sites 13, 10, and 12. What's more, the remedies for these sites have been carefully selected and designed to control costs and use resources wisely.

Site 13—Landfill 1

ERP Site 13, also known as Landfill I, is an inactive landfill near the Wheatland Gate. The landfill was used originally by nearby farmers, ranchers, and eventually Camp Beale until the mid-1950s for disposal of domestic, agricultural and military waste. The proposed cleanup for Site 13 includes placing a soil cap on top of the landfill to prevent humans and wildlife from coming into contact with any contamination. When finished, the cap will be no less than four feet deep and cover approximately seven acres. The cap will be inspected yearly to ensure it is not eroding.

To save money and resources, the Site 13 cap will be made of soil removed from a nearby wastewater discharge pond. The water-holding capacity, or volume, of the discharge pond needs to be increased so that it can hold more treated water coming from a nearby wastewater treatment plant. Using clean soil excavated from

the discharge pond to construct the cap for Site 13 is projected to save Beale AFB nearly \$1 million.

Site 10—Former J-58 Engine Test Area

Jet engines were tested at Site 10 until 1990. Occasional spills and leaks of fuels and cleaning solvents used with the engines contaminated soil and eventually groundwater at the site. Beale AFB began cleaning up contamination at Site 10 in 1990 by excavating visibly contaminated soil and installing a system that extracted contaminated soil gas (vapor) from the ground. Removing the contaminated vapor helped prevent further harm to groundwater.

Those early efforts removed most of the contamination at Site 10 and prevented pollutants from traveling to uncontaminated areas. In particular, those early cleanup efforts

by the Air Force significantly reduced the volume of contamination that reached groundwater. Contamination that reaches groundwater is much more difficult and expensive to remove and treat; it costs up to 40 times more than soil vapor cleanup. The result of Beale's early actions is a savings that could exceed \$2 million.

The construction activities planned for 2004 will be the last step in cleaning up Site 10. This year's activities will include cleaning up remaining patches of soil contaminated with fuel-related chemicals and restoring the groundwater using an innovative cleanup technology referred to as "enhanced bioremediation." Enhanced bioremediation involves giving natural biological processes a boost by injecting nutrients and/or microbes

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Kyle West, who was re-elected January 15 as the community co-chair of the Beale AFB Restoration Advisory Board, welcomes new RAB member, Jomara Ortiz Lopez.

"No Further Action" proposed at six sites

Beale AFB and regulatory agency staff are currently discussing whether further cleanup action is needed at six Environmental Restoration Program (ERP) sites. The public, too, has a role in the decision-making process. When these six sites are closed, Beale will have closed nearly half of its ERP sites.

How the process works

A location enters the ERP because operations took place at the site that *might have* caused environmental harm. Samples are collected from the site to find out if past practices have impacted the environment. In some cases, sampling results indicate that site conditions do not require a cleanup. In other cases, small-scale cleanups—known as removal actions—must be conducted, followed by the collection of new samples to confirm the contamination has been removed.

When regulatory agencies determine a site does not need further environmental cleanup, then all or part of the site may be ready for "closure." Closure, in this case, means that regulatory agencies see no need to conduct investigations, treatment, or removal of all or "part" of a site in the future. Closing "part" of a site refers to one

or more of the site media, such as soil, groundwater, or surface water. For example, Site 36 can be closed for soil and soil gas (spaces between soil particles that may contain air affected by contamination). This is because soil and soil gas at Site 36 have been investigated and cleaned up satisfactorily. However, closure for groundwater is not acceptable at this time because groundwater requires further investigation.

The decision to close a site is documented as a No-Further-Response-Action-Planned, or NFRAP. The NFRAP is considered a draft until the public has an opportunity to review and provide comments on it. The draft NFRAP summarizes the types of information reviewed and investigations conducted, reports the findings, and proposes that no further cleanup activities be conducted at the site.

The dates of the 30-day public comment period are announced in a public notice in a local newspaper on the first day of the comment period. The public notice provides the name and location of information repositories that have copies of the draft NFRAP available for review. The notice also gives the date, time, and location of a public meeting that will be held to answer

questions from the public and hear comments on the draft NFRAP.

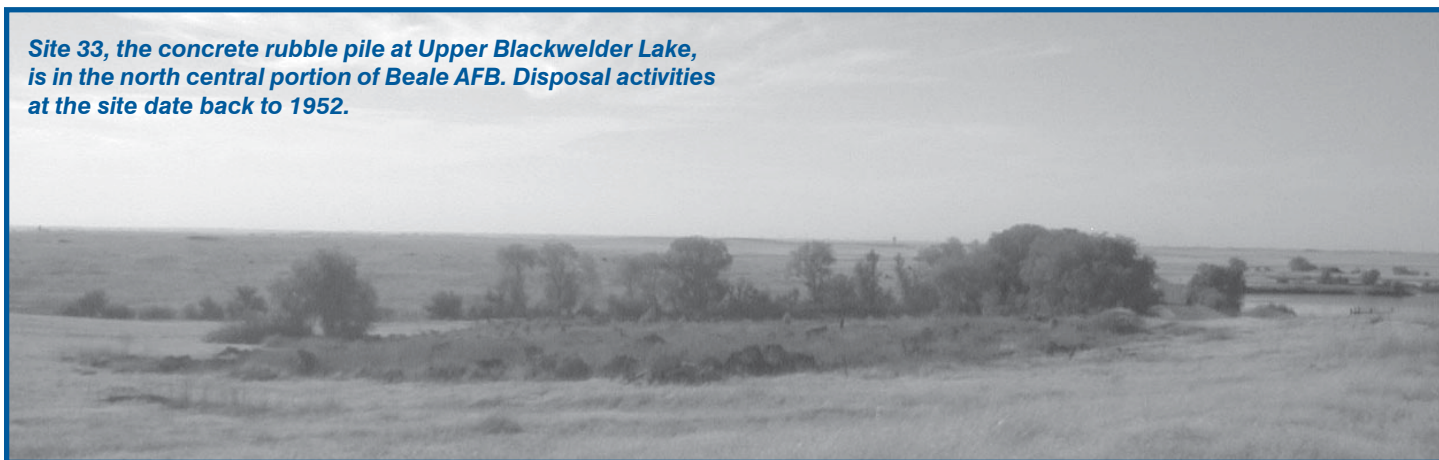
All comments received are addressed and incorporated into the final NFRAP. The NFRAP is finalized and coordinated for signature with the Beale AFB Civil Engineer, the Regional Water Quality Control Board, and the California Department of Toxic Substances Control.

The six sites currently proposed for no further action are described here. More detailed information will be available in the NFRAPs. The public meeting is expected to be held in mid-2004 after discussions with regulatory agencies are completed. For each of these sites, human health and ecological risk assessments were conducted, and it was determined that there would be no negative impact to humans or the ecosystem if no further action is taken at these sites.

Site 24, Former Landfill No. 4, was used for the disposal of household waste. The portion of the site recommended for closure is only that which relates to landfill activities prior to 1984. Site closure would be for soil, soil gas, surface water, and groundwater.

Site 36 is the former location of a secured storage area, a tank maintenance shop, seven underground storage tanks, and a

Site 33, the concrete rubble pile at Upper Blackwelder Lake, is in the north central portion of Beale AFB. Disposal activities at the site date back to 1952.



2004 ERP budget at a glance

The Air Force has allocated between \$8 million and \$10 million to Beale AFB for its 2004 environmental restoration activities. In past years, Beale's budget has ranged between \$5 million and \$6 million. The increase is due in part to the number of cleanup projects Beale is poised to perform this year, but it is also an acknowledgment of the importance and progress being made by the base on its cleanup program. Although the approved funds are less than the \$11 million Beale requested for fiscal year 2004, the Air Force recognizes that Beale has much work that still needs to be

funded. This means that if other bases are not able to obligate all of the money in their budgets during the government's fiscal year, the Air Force could shift additional funds to Beale AFB.

Here is the major work planned for 2004:

Cleanup actions (see Page 1)

- **Site 13:** Estimated at approximately \$3 million.
- **Site 10:** Estimated at approximately \$1.2 million.
- **Site 12:** Estimated at approximately \$350,000.
- **Site 22** (underground storage tank removals): Approximately \$400,000.

Studies are still an important part of the program

In addition to cleanup actions, studies are continuing for other sites in the program. At some sites, this year's studies will complete the investigation phase and provide the information needed to make final cleanup decisions. At other sites, this year will mark the first field investigation at the location. Overall funding for 2004 investigations is approximately \$3.4 million.

Sites scheduled for field studies this year include: **Site 3** (former fire protection training area); **Site 29** (former burn pit); **Site 35** (Buildings 1319 and 1322, weapons storage area); **Site 38** (former skeet range); **Site 39** (Building 2145); and **AOC 73** (background well UBL0002MW). ✕

World War II electrical substation. Contaminated groundwater beneath this site originates from a different source, and groundwater issues will be handled separately, as part of the Site 39 remedial investigation scheduled to begin this summer. The proposed closure at Site 36 applies to soil and soil gas only.

Site 19, a former Emergency Holding Basin, was used occasionally to hold excess amounts of waste from the nearby photo-processing laboratory. Contaminated soil has been

excavated. Site 19 is inside the boundary of Site 39. Any groundwater contamination will be managed as part of the Site 39 remedial investigation. The NFRAP will close Site 19 for soil and soil gas only.

Site 34 refers to the area now known as the Rod and Gun Club, near Building 250. Previously, it was the location of an antenna array, where transformers containing PCBs were used. Investigations at the site detected only trace amounts of contaminants, and the risk assessment indicated no threats were posed to human health, water resources, or the environment. Site closure would be for soil, soil gas, surface water and groundwater.

Site 12 is the former Entomology Building 440 area (see back page). After contaminated soil

is excavated this year, the site will be recommended for closure. Pesticides do not migrate very far, so they have not affected groundwater at the site. This year's cleanup action is expected to close the site for soil, soil gas, surface water and groundwater.

Site 33 refers to concrete rubble piles near Upper Blackwelder Lake, where several drums were found. Soil, surface water and groundwater have been sampled. The only concern is an unexpected but low detection of fuel in a groundwater sample. To follow up on that detection, three wells will be installed this spring to provide more information about the groundwater at this site. Depending on those results, Site 33 also may be proposed for no further action. ✕

For more information on Beale AFB's restoration program please contact:

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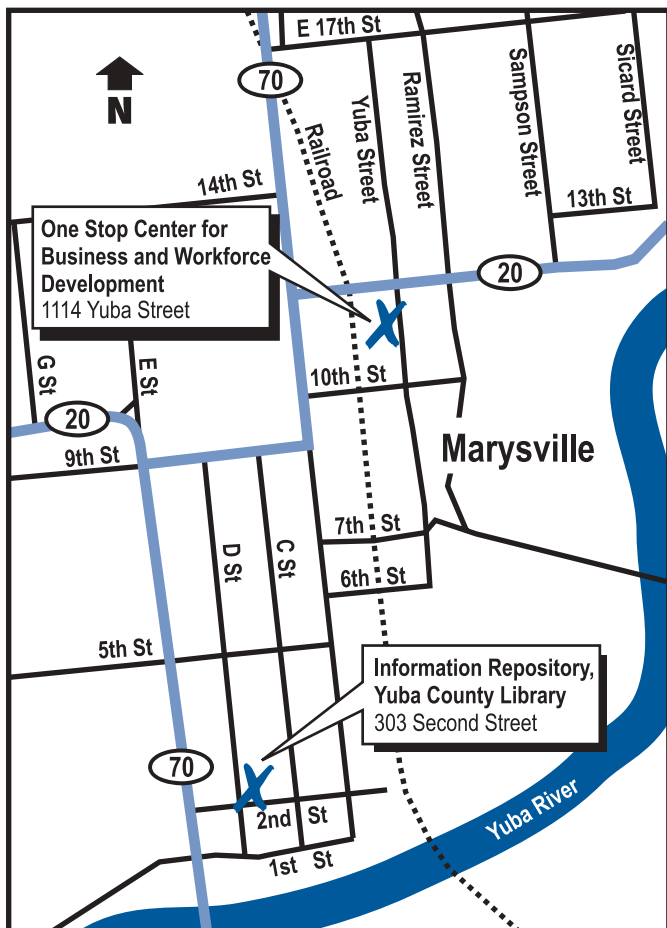
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The Beale AFB Environmental Cleanup Program newsletter is a publication of the Environmental Flight, Civil Engineer Squadron, Beale AFB, California. It is produced by URS to inform and educate the public, both at Beale AFB and in the surrounding communities, about the continuing efforts to clean up contamination at Beale AFB. The opinions expressed in the newsletter

are not necessarily the official views of, or endorsed by, the U.S. Government, the Department of Defense, or the Department of the Air Force.

For questions, comments, or to be placed on the mailing list, please write to 9 CES/CEVR, 6601 B Street, Beale AFB, CA 95903; call (530) 634-3856; or send an e-mail to michael.o'brien@beale.af.mil



Upcoming Events

Restoration Advisory Board Meeting

Thursday, March 18, 2004, 6 p.m.

at

One Stop Center for Business
and Workforce Development
1114 Yuba Street, Marysville



Original RAB member continues her commitment

Meet Marcelle "Marci" Christofferson, one of the original members of the Beale Restoration Advisory Board. Since joining the RAB in 1994, Christofferson has

represented the perspective of the Yuba County Office of Emergency Services. The OES is well known for its role in disaster preparedness and relief, but in Yuba County the OES also has responsibilities related to underground storage tanks, hazardous materials and waste inventories. Those responsibilities initially prompted Christofferson to join the RAB. Her personal commitment to giving and receiving information to the public keeps her involved.

Christofferson has been with the OES for 17 years. Her formal education is in biological conservation. The combination of government experience, science education, and personal commitment make her a valuable RAB member.

2004: Another year of action at Beale AFB (Cont.)

into the ground. This helps the microbes convert toxic chemicals to a nontoxic state using a natural process. This remedy is currently being tested at Site 10 (see the October 2003 issue) and has shown great promise.

Site 12—Former Entomology Bldg. 440 Area

Site 12 is the former Entomology Building 440, where pesticides and herbicides were formerly mixed for use at the base. Operations outside the building left concentrations of these chemicals in certain areas of soil near the building. The cleanup plan for Site 12 is to excavate over 1,000 tons of soil and transport it by truck to a landfill and treatment facility in Nevada. The area to be excavated is about one-third of an acre, to a maximum depth of two feet. In addition, soil and sediment in part of a shallow roadside drainage ditch near Site 12 will be scraped and disposed of similarly.

As with other remedies, the Air Force has found ways to control the cost of the Site 12 cleanup. A carefully planned soil sampling strategy was used to identify areas of soil with the highest pesticide concentrations. By identifying these areas and segregating the soils during excavation, only about 400 tons of soil will have concentrations high enough to require treatment by the Nevada facility prior to being placed in the landfill. The cost savings is approximately \$240,000.

Sites Discussed in This Newsletter

